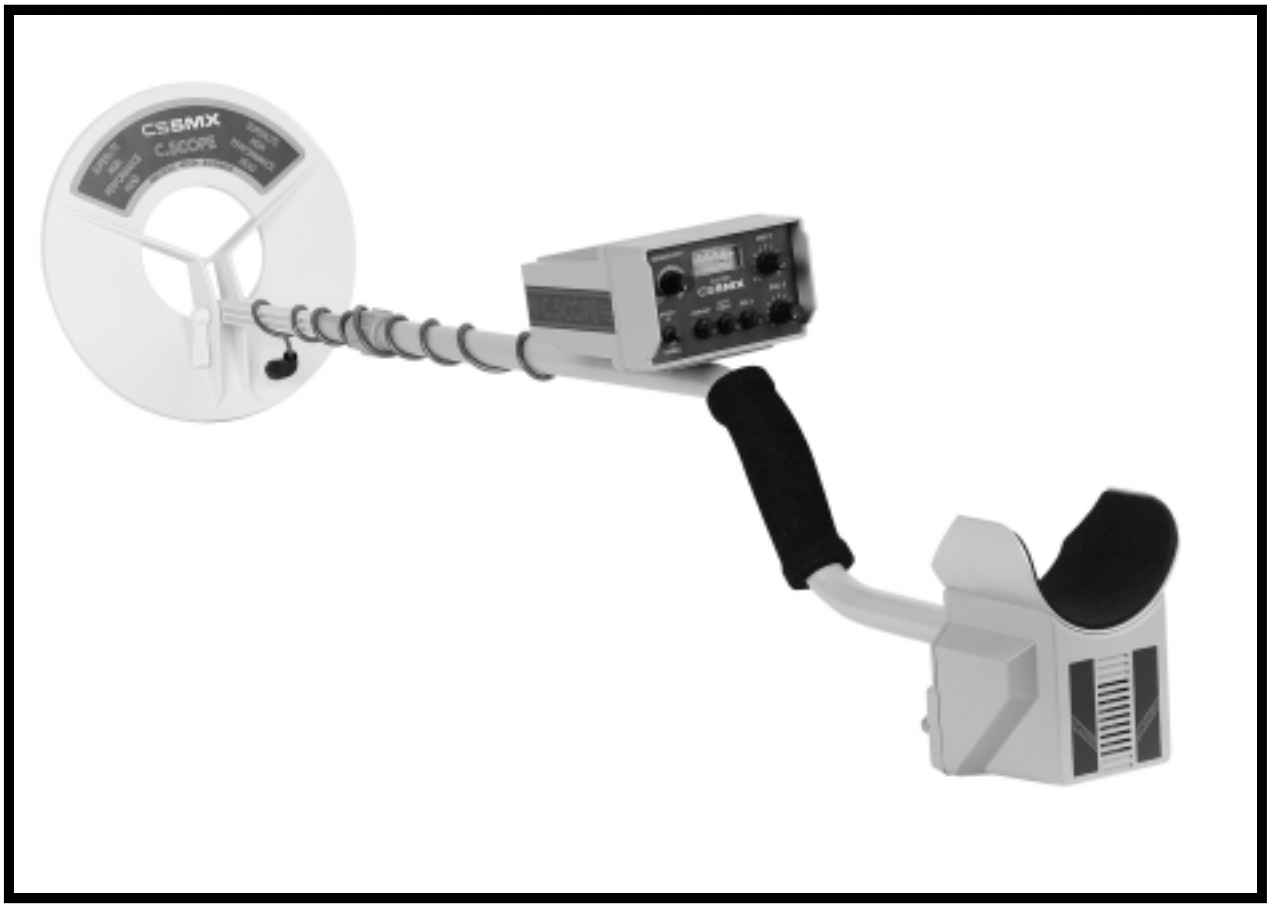
velleman components

C.SCOPE

CS-5MX

Professional metal detector

Operating manual
Gebruikers handleiding
Manuel de l'Utilisation



CS-5MX - RAPID GET YOU GOING INSTRUCTIONS

1. Assemble and adjust for length (Twist surplus lead around stem)

2. Insert batteries

3. Set DISC 1 (top right) to ALL METAL (fully anticlockwise).

4. Set DISC 2 (bottom far right) to 5.

5. Set SENSITIVITY (top left) to 3 o'clock position.

6. Push BATT CHECK down and hold to indicate battery condition. Good batteries will be in the green area on the meter. Release.

7. Set BOOST to NORMAL.

You are now in ALL METAL MOTION MODE.

You will find all metals within the search head range including iron and trash PROVIDING THE SEARCH HEAD IS MOVING OVER THE TARGET (Not stationary).

To ignore these low value metals :

8. Adjust DISC 1 (top right) to position 5.

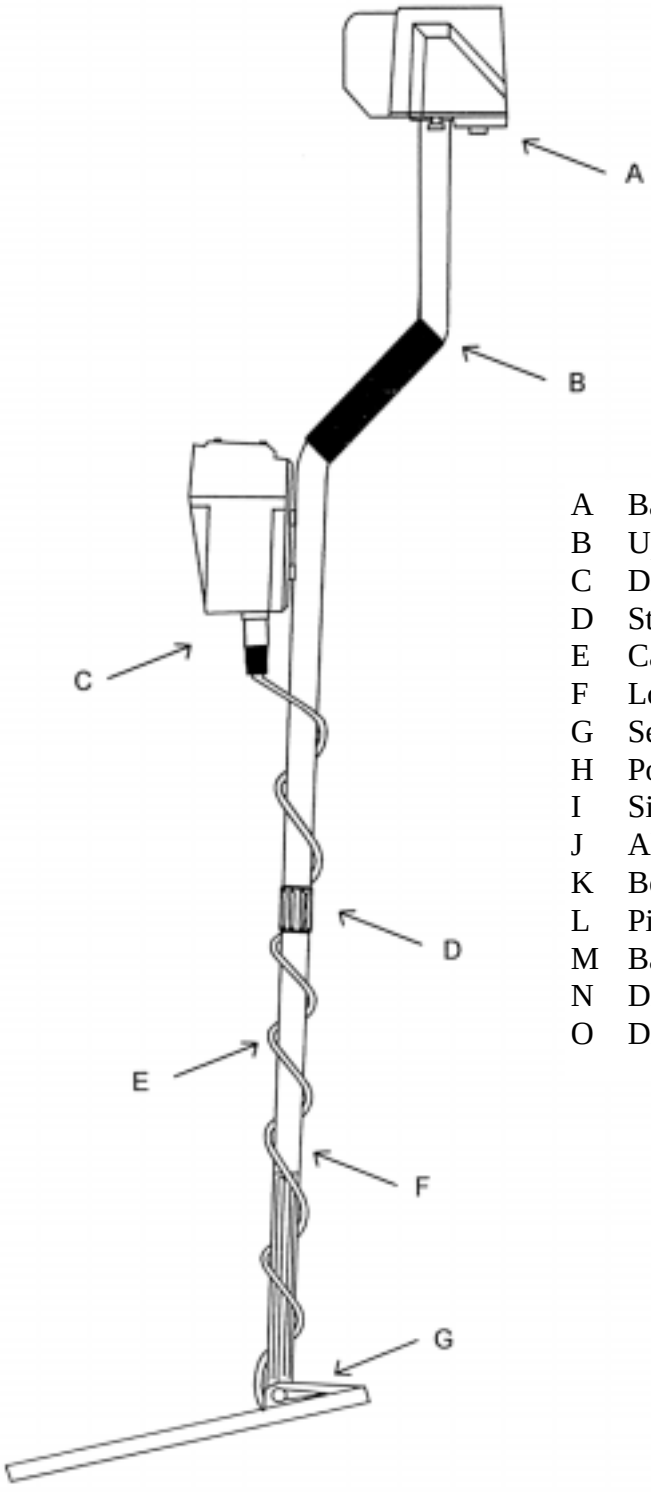
You are now in DISCRIMINATING MOTION MODE.

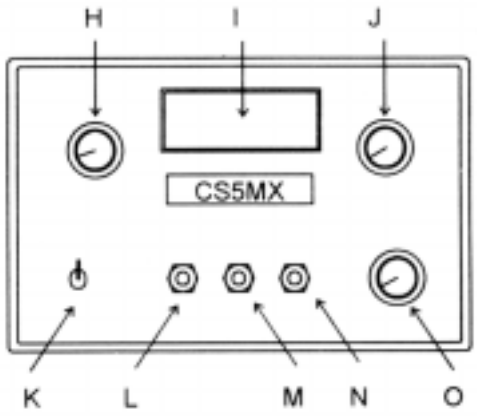
The other modes requires more detailed explanation acquired from reading the full instructions.

IF A PROBLEM IS ENCOUNTERED REFER TO FULL INSTRUCTIONS

Controls

C-Scope CS-5MX





A Battery compartment
B Upper Stem & Handle Grips
C Din plug & Socket
D Stem connecting nut
E Cable
F Lower stem
G Search head fastner
H Power on / off & sensitivity
I Signalmeter
J All metal mode / Discrimination 1
K Boost Hi / Normal
L Pinpoint
M Battery check
N Disc 2 Select
O Discrimination 2

INTRODUCTION

The CS-5MX combines 'turn on and go' technology with real depth to provide you with both simplicity in use yet sophistication in performance.

IMPORTANT

These family of detectors are recognised as the finest detectors available. They are designed with lasting quality in mind, high technology, and above all, value for money.
The only way to realise this value is to carefully study and understand this instruction manual. You will then be able to obtain all of the advantages designed into your detector. It is also strongly recommended that you experiment with the detector's operations in air, with various test samples, in order to learn to identify and understand the detector's capabilities and responses.
Always remember that becoming a good metal detective is like becoming a good photographer or fisherman. Although it is an advantage to buy the best equipment having bought it, patience and hours of practice are needed to become proficient.

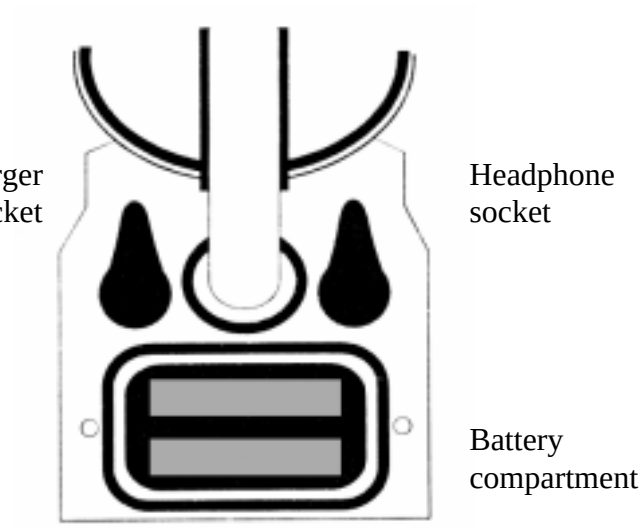
ASSEMBLY

Open the carton and remove the main housing assembly. Twist the plastic stem lock, located at the end of the upper stem to allow the lower stem to be inserted. Adjust for length and rotate the lower stem to wrap the cable around the stems and take p any slack. Allowing enough cable for free movement of the search head push the cable into the cable slots to hold it firm. Turn the stem lock to fix it at the desired position.

BATTERIES

The CS-5MX is powered by eight AA batteries (not supplied) available from garages, department stores, etc. or a single 12V rechargeable pack from C-SCOPE. It is advisable to use standard to start with. You can then evaluate the sort of use you give the detector and decide whether the investment in rechargeables is justified.

Battery compartment



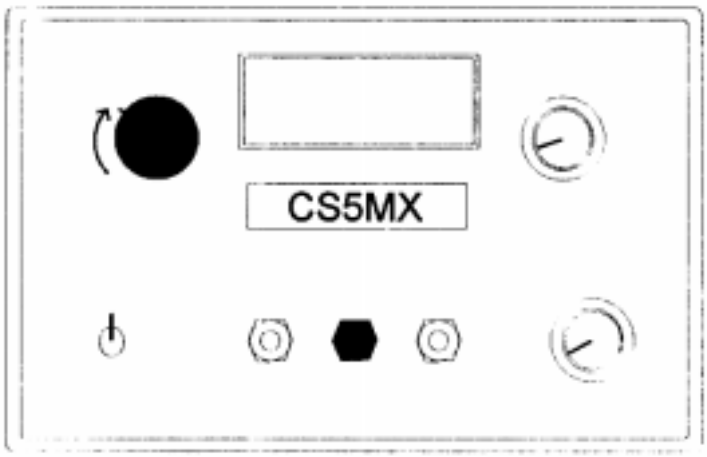
The batteries should be fitted in the holder which is located in the battery compartment. To fit new batteries first check the power switch on the unit is switched to OFF. Then loosen the two captive screws located in the battery cover (do not fully remove these from the cover) and remove the cover. Inside is the battery holder. Lift out the holder and detach the connector if it is already fitted. Load it with the eight batteries ensuring that each battery is inserted the correct way round, (direction of batteries alternating). Roll each individual battery to ensure it is located correctly and making proper contact. Replace the connector making sure that its is firm and well seated, and put the loaded holder into the housing. Fit the cover and tighten the two captive screws finger tight.

Note : Zinc Carbon batteries should not be left in the detector for long periods where they could leak, so remember to remove them at the end of a day's searching.

BATTERY CHECK

A battery condition indicator is provided on the detector. To do this for the first time prior to reading the remainder of the operating instructions proceed as follows : - Turn the SENSITIVITY (POWER) control on. Press the centre push switch marked BATT CHECK and hold down. The meter will indicate in the green area if the batteries are good and in the left or central position if the batteries need replacing or recharging. Release the switch and turn the SENSITIVITY control off. Rechargeable batteries will not read as high into the green as standard batteries even when fully charged. They also give less indication of discharge on the meter during use.

Checking The Batteries



HOLD
PUSH SWITCH

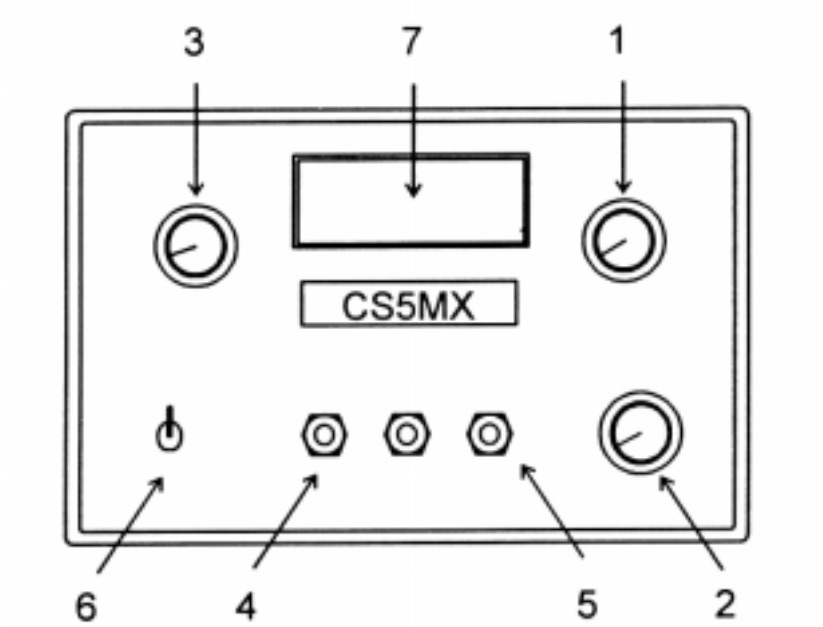
CONTROLS AND WHAT THEY DO

The CS-5MX has been designed to offer simplicity of use with high, reliable performance.

The control panel comprises three rotary controls, three push buttons, one toggle switch and a meter.

i. On/Off Sensitivity

Switches detector on by rotating clockwise and adjusts sensitivity to metal.
The CS-5MX is a silent operating machine and you should rotate the Sensitivity Control clockwise to the position where the audio threshold tone is comfortable.
Operate the Sensitivity at the highest level possible but, if you experience interference from external radio transmissions or soil mineralisation, reduce the level to eliminate this.

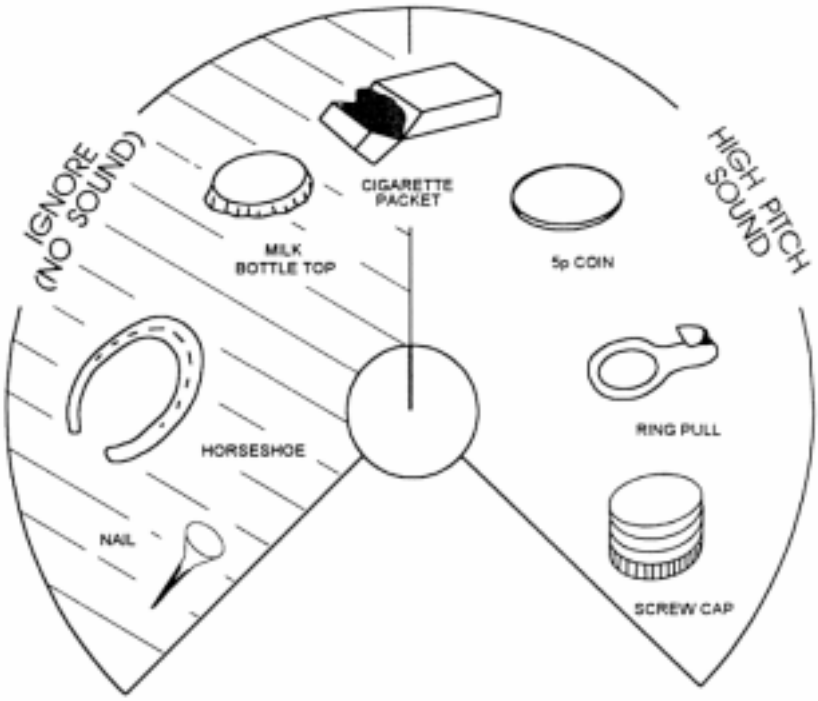


1. Disc 1
2. Disc 2
3. On/Off - Sensitivity
4. Pinpoint push select button
5. Disc 2 push select button
6. Boost
7. Signal Meter

ii. Disc 1

In the clicked off position, the CS-5MX detects all metal objects.
Turned clockwise it becomes a fully variable discrimination control.
Discrimination is a means of ignoring objects which are generally regarded as junk whilst still detecting the good objects.
At the lowest setting most iron objects are ignored. Increase the setting and the unit will ignore even larger pieces of aluminium paper as well as iron.

At higher levels still, ring pulls will be ignored. You must, however, realise that at this higher setting you will also lose some low denomination and silver hammered coins, so set the control only as high as necessary to ignore iron and foil contamination (e.g. level 5 is typical).



Effect of Discriminate Control Position

iii. Disc 2

This control is identical to Disc 1 and allows you to further identify the target signal being received.

With Disc 1 set at 5 to reject small iron and silver foil, commence searching. Remember the CS-5MX is a motion machine which means that the search head needs to be constantly sweeping, except when in pin point mode - (see page 8).

You now need to set Disc 2 to ignore ring pulls.

Sweep the head above a ring pull and rotate Disc 2, at the same time depressing the Disc 2 push select button with the thumb of the hand holding the machine. When the ring pull signal disappears this control is set. Release the push button.

Your CS-5MX automatically operates in Disc 1 so commence searching (see "Sweeping Technique" on page 11).

When you receive a signal, this indicates that the target could be a silver hammered coin, ... Depress the Disc 2 button and hold it in. Sweep the target object again. If you are still receiving a signal, then it is likely to be any of the metal found above ring pulls ...

Disc 2 gives you greater analytical skills than a single discrimination machine but, even when Disc 2 does not give a signal, still dig the target to avoid losing silver hammered etc.

Three points to remember :

1. Large iron objects, particularly if near the surface, can produce a signal regardless of discrimination settings.
2. Although Disc 1 and 2 are set to ignore metals at the same position there may be slight variations in your machine and between different machines.
3. Practice, in air, with various metal objects so you understand the detector capabilities and responses.

The more familiar you become with your CS-5MX Metal detector the more skilful combinations of Disc 1 & 2 you will use. The following chart gives a few ideas of setting and the conditions under which you would employ them.

REF	DISC SETTING		WHEN USED
	DISC 1	DISC 2	
A	0	0	All metal detecting
B	5	0	Dig all signals
C	5	7	To analyse possible ring pulls etc (see above)
D	5	10	If searching for modern currency (e.g. coins) in a highly screw cap contaminated site (e.g. picnic area)
E	7	0	Use on beach or picnic site which is highly ring pull contaminated
F	10	0	Use on same sites as above except where highly screw cap contaminated.

NOTES :
i) When using references E & F please be sure that the search site would not yield silver hammered coins which may be ignored at these high discrimination settings.
ii) In reference A, you way need to reduce sensitivity in highly mineralised or beach sites
iii) These settings are guidelines only and you should practice with various known objects to ensure that you are familiar with the settings correct for your machine.

iv. Disc 2 Push Select Button

See Disc 2 control above.

v. Pinpoint Push Select Button

At stated on page 6 the CS-5MX is a motion machine which requires the head to be constantly moving.

When you have located a target you must pinpoint it carefully to avoid unnecessary digging. When held down, the pinpoint button enables the detector to give a varying response which peaks directly above the target.

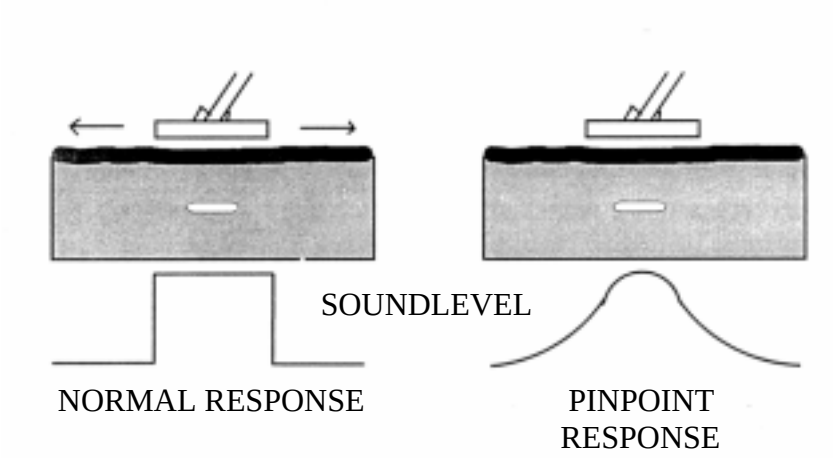
To pinpoint a target carry out the following procedure :

1. Move the search head to a known clear patch.
2. Hold the pinpoint button down and return the head to the target area ; move it slowly and listen for the peak response.

The all metal pinpointing mode gives a positive response to all metal irrespective of the Discriminate setting.

It is not necessary to sweep the target as the pinpoint mode will respond even when held stationary over the object although the target will fade gradually if the head is held over it for too long.

Normal and Pinpoint Response



vi. Signal Meter/Battery Check

This is a visual indication of the signal strength giving the experienced user more information about the target. This is particularly useful for pinpointing. When the BATT CHECK is pressed, the meter will indicate condition of the batteries. If the meter reading falls below the green band, the batteries should be replaced.

vii. Boost Hi/Normal

For general detecting work, NORMAL mode should be selected.
When increased sensitivity to deep objects is required, then the setting HI should be used. However, if false signalling occurs due to soil mineralisation, revert to the NORMAL setting.

OPERATING YOUR CS-5MX

Check the batteries are in good condition prior to searching. Frequently check the battery condition during the search. Rechargeables give little warning of failure so ensure they are fully charged prior to a long period of searching or carry a fresh set with you. (See Batteries, page 3).
The unit may operate with reduced sensitivity for a period after indicating 'flat' batteries. However the batteries should be replaced or recharged at the first opportunity.

Use headphones when possible. Not only do they extend the battery life, but they also cut out extraneous noise.

(It is instructive to bury some objects in a clear patch of soil and note the response when swept at different rates with DISCRIMINATE at various levels). Large pieces of iron are difficult to ignore and may give confusing signals. An aid to determine whether the target is iron or not is to go into an all metal mode either by turning the DISCRIMINATE off or simply by pressing the PINPOINT button. Iron objects will generally give a stronger more positive signal than good objects.

When operating on the beach the all metal mode may give a response to the beach itself. If this is the case operate the unit with the DISCRIMINATE level set to the point at which it is ignored.
If in doubt as to whether a target is good or not - dig it. Your knowledge of how the detector responds will increase each time and soon make your more sure.

DETECTION RANGE

Detection ranges will vary depending on the size of the object, the length of time an object has been buried, and the type of ground the object is buried in.
The best ground conditions are well compacted soils and coins can be found at the greatest depths if the object has been buried for some time and the coin has interacted with the salts in the ground, thereby appearing larger to the detector. The worst conditions for detecting are on loosely compacted or freshly dug ground or when the object has only recently been buried. In these conditions detection range will be reduced. 90% of all artefacts are found within 6" (20 cm) of the surface.
N.B. Your CS-5MX is a top performance deep seeker but adverse soil conditions can significantly reduce the depth of detection.

DETERMINING THE TARGET SIZE AND DEPTH

An operator who is familiar with his instrument will be able to do an excellent job of determining object size, shape, and depth before he digs. This technique is learned from careful analysis of the audio signals coming from the detector. Each time a signal is heard, listen for any peculiar characteristics it may have, determine over how large an area you get a detector signal, and try to "outline" the object before you dig.
After digging up the object, compare the object size, shape, depth and position in the ground with signal information you received before digging. After careful analysis of many digs, you will learn to "read" the hidden target before digging.

ACCESSORIES (OPTIONAL)

Headphones

Headphones not only extend battery life but improve sensitivity by cutting extraneous noise. The headphones should be fitted with a standard ¼ inch (6.3 mm) jack plug. The headphone socket is located under the protective cap in the battery housing.

Rechargeable battery pack

A shrink wrapped pack of 8 rechargeable NiCd batteries to replace the standard batteries and holder.

Battery charger

The C-SCOPE battery charger is designed to charge the rechargeable pack quickly and safely.

CHARGING BATTERIES

A battery charge socket is provided for use with the C-SCOPE battery charger (See Accessories) and is located under the protective cap in the battery housing. (The smaller of the two sockets.) Inserting the charger will automatically remove the power from the detector so the charger must be removed to do a battery check. Do not attempt to recharge standard batteries. It will take between eight and fifteen hours to fully recharge flat batteries with the C-SCOPE charging unit.

THE IMPORTANCE OF THE RIGHT APPROACH

Treasure hunting can be a profitable and rewarding hobby, if approached in a patient and diligent manner. Time spent researching to locate a worthwhile site for a search can be time wasted if your search is hasty and erratic. To achieve maximum results, it is important then to decide on your approach to any particular site in advance of the actual search.

Tactics will be decided by the type of site - it is more profitable to scan a small area thoroughly, than to conduct a haphazard search of the total site. However, when the site is too far away for you to make several return visits a plan should be adopted which gives maximum site coverage, at the same time as indicating the most likely area for detailed search.

Your detector alone is not a guarantee of successful treasure hunting. Any detector needs an operator and for the best results the operator needs the right approach, attitude and technique. Too many beginners neglect the importance of pre-planning and research before using their detector in the field, and patience and technique during the actual search.

A successful search should begin with research sometime before the day of the actual search. The extent and thoroughness of your research will be one of the major factors in the success of your detecting. You should aim to get as complete an understanding as possible of the local history and geography.

The key to the choice of the site is to think of people, where they congregated over the past few hundred years. What were their customs and pursuits? Where did they spend money? Where did they carry money? The answers are not Roman sites, nor are they associated with mystic treasure stories of crocks of gold. Rather, they are unassuming, undramatic places, like public footpaths and ancient rights of way, old houses and so on.

When you have chosen your site, allocate a whole day from early morning to early evening for the search. Make sure that you have all the equipment you are likely to need. Your detector should be checked before starting out, and you should always carry a spare set of batteries. You will also need a strong, sharp trowel. It is also a good idea to have a set of lines and pins so that you can lay out your search area scientifically.

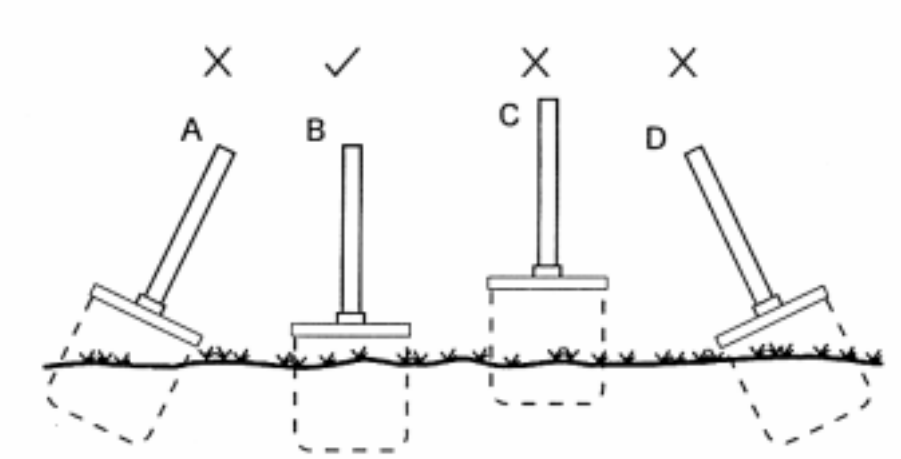
Most beginners make the mistake of rushing about hoping to chance upon a rare find. If for example there happened to be a valuable ring that was buried 41 deep on the site you were searching, it you rushed about haphazardly and quickly on the site, the odds would be very much against you finding it. On the other hand, it you pegged out the area scientifically and searched slowly and thoroughly, the odds of finding the ring would be much more in your favour.

Remember, BE PATIENT and WORK SLOWLY. Do not try to cover too large an area. Restrict yourself to a small area and work through it thoroughly. Make a note of the position and extent of the area, and then when you return you can start again further on without missing any ground or covering the same area twice.

It is also important to keep the detector head as close to the ground as possible. Ideally, you should "iron" the ground with the search head of the detector, so that you do not lose any detection range. Similarly, if you work slowly and carefully you should be able to distinguish the faint signals as well as the clear-cut signals and further increase your finds.

The technique of getting the best out of your detector is not learnt overnight. You need to get as much experience as possible so that you can recognise every kind of signal. Indeed, a good detector operator can often tell you what is being detected before it is unearthed.

Search Head Position



It is essential that the search head is kept close and parallel as in 8. Do not hold the head too high above the ground, or at an odd angle as in A, C and D as you will be apt to miss finds.

SWEEPING TECHNIQUE

For extremely small object searching, such as coins, rings, nuggets, etc. lower the search coil to within one inch of the ground. Sweeping the coil from side to side in a straight line in front of you. Keep the coil at a constant height as you sweep from side to side. Move the coil at the rate of one foot per second.

The optimum sweep rate must be determined by each operator. The detector should be held comfortable in the hand, with the coil held as closely to the ground as possible. As the detector is scanned from side to side in front of the operator, the search coil should be advanced approximately two-thirds the diameter of the coil. This keeps the operator moving ahead, and it allows some overlapping of each sweep. This overlapping ensures that nothing will be missed. It is well to note here that the operator should not rush. This is one of the most common mistakes made by detector users. If you rush, you will not adequately cover the ground.

CARE OF YOUR DETECTOR

Storage

When not in use your detector should be stored in a dry warm environment. If it is not to be used for a certain length of time it is advisable to remove the batteries to avoid leakage which could cause serious damage. The working life of your detector will be shortened by careless use or neglect of the unit. Think of your detector as a scientific instrument. Your detector is designed to withstand rugged handling on any terrain, but misuse or lack of due attention will tell in the end. After using your detector in a hostile environment (salt water, sand, etc.) The exterior parts should be flushed with clean fresh water, paying attention to the head and stems, then carefully wipe dry.

DETECTOR NOT OPERATING ?

(a) Check the condition of batteries under load using the meter. (See Battery Check Procedure)
(b) Check that the search head is properly attached to the control box via the search head cable connector.
(c) Interchange batteries and ensures connections are correct and secure. Battery life can vary tremendously between makes, therefore your 'new' batteries may already be insufficiently powerful to run the detector.

Oscillating Signal Accompanied By Slight Meter Fluctuation

(a) This could be due to poor battery connections. Ensure that they are tight and the batteries are securely clipped into place.
(b) Loose search head cable connection - tighten.
(c) Interference from a vehicle using a radio transmitter or possibility a stationary source of electromagnetic radiation - if this occurs then reduce the sensitivity. If the problem persists then the best remedy is to wait until the transmission stops.

Intermittent Sound From Speaker

(a) This could be due to poor battery connections. Ensure that they are tight and the batteries are securely clipped into place.
(b) Loose search head cable connection - tighten.
(c) Radio interference (see above).

The Detector Drifts Out Of Tune

(a) Temperature drift caused by change in air temperature when a machine is move from a house or car into the open. The greater the change in temperature the more the drift, and in severe conditions up to 30 minutes may be needed for the electronic circuitry to acclimatise itself.
(b) Sometimes battery drain can cause drift of signal. Replace batteries and this should help to maintain a stable signal.